REMARKS

The office action of December 20, 2005, has been carefully considered.

It is noted that claims 9 and 10 are withdrawn from consideration as being directed to a non-elected invention.

Claims 1-6 are rejected under 35 U.S.C. 103(a) over the patent to Oxenrider et al. in view of Frey et al.

In view of the Examiner's rejection of the claims, applicant has amended claim 1.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the constructions disclosed in the references.

Turning now to the references, both references have been discussed at length in the last filed amendment and those comments are incorporated herein by reference. The following additional comments are provided.

In paragraph 6 the Examiner states that there is no support in the specification regarding higher repellency of a fiber made according to the present invention as compared to a fiber made from a melt. Applicant submits that the embodiment described in the specification, together with the drawings, show the important differences between the presently claimed invention and the prior art. Namely, although repellant fibers are known, a higher repellency is obtained from fiber made by solution (wet) spinning pursuant to the presently claimed invention. This improvement is not given numerically since it depends on the portion of Fluropolymers in the fibers.

The Examiner combined Frey et al. with Oxenrider et al. in determining that claims 1-8 would be unpatentable over such a combination. Frey et al. teach a dry spinning process, and make no mention of a wet spinning process. A dry spinning process leads to a melt that is subsequently extruded. Therefore, Frey et al. deal with a melt spinning process, as do Oxenrider et al. Attempts at producing a polyacrylnitril fiber pursuant to a process as taught, for example, by Oxenrider et al. have resulted in the conclusion that it is not possible to produce such a fiber because the melting temperature of polyacrylnitril is above the decomposition temperature of polyacrylnitril. Therefore, the melt extrusion

process of Oxenrider et al. is only suitable for other thermoplastic materials.

As previously mentioned, both references disclose a dry spinning method. Neither reference gives any teaching concerning a wet spinning process, as in the presently claimed invention.

Considering again the melt spinning method of Oxenrider et al., in the first two lines of column 2 it is stated that by extruding the repellent material migrates to the surface of the fiber. With melt extrusion (melt spinning method) of thermoplastic materials migration is only possible in the temperature region between the spinning temperature at the outlet of the spinning jet and the glass conversion temperature. After that the migration through the viscous polymer structure is very limited if at all possible. At normal spinning speeds this gives a maximum time window of 0.1 seconds, which is at most a very limited time in which to concentrate possible fluoro-components on the outer surface. On this basis Oxenrider et al. describe an increased effectiveness with tempering. With tempering the glass conversion temperature is exceeded and makes possible the migration of the additives. Oxenrider et al. provide no teaching of what driving forces cause the migration. The tempering, if it functions at all,

is an additional process step and thus subsequent to the solution spinning process.

The addition of ambivalent polymers to the spinnable polymer components takes place in the solution in the presently claimed invention. In Oxenrider et al. a blend is produced with the help of a solvent. Before the extrusion process, spinning of the fibers, can begin, however, the solvent must be removed. This is different form the presently claimed invention in which a multi-phase system of the spinning process is taught, namely ambivalent polymer + solvent and the spinnable polymer components + solvent. During the solvent-spinning process (wet spinning process) due to the ambivalent character of the fluoropolymers as well as due to the solvent vapor pressure there is a separation slope, that is to say a solution pressure in the direction of the upper surface of the corresponding fiber. This leads to a self orientation of the fluorocomponents on the resulting fiber surface. Simultaneously the remaining components of the ambivalent polymer remain anchored in the fiber matrix. In solvent spinning processes the spin solution is next lead in a gel to a bath. During this time form leaving the spinning jet and entering the spinning bath, the ambivalent polymers have sufficient time to migrate in the direction of the surface of the fiber. During the gel-phase the

structure is still very open-pored. Thereafter, up to the fiber formation the migration progressively decreases due to the escaping of the solvent, the stretching of the corresponding fiber and the cooling.

Applicant respectfully submits that neither of these references, nor their combination, teach a wet spinning process for the production of a textile fiber with permanent repellent action as recited in the claims presently on file. There is no teaching in either of the references or their combination for replacing a melt (dry) extrusion with a solution (wet) process to provide fibers with improved repellency, since neither of the references discusses the migration process that takes place within the fiber during production of the fiber. Thus, it is respectfully submitted that the combination of references does not teach or suggest the presently claimed invention.

In view of these considerations it is respectfully submitted that the rejection of claims 1-6 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are

respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

By

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450 Alexandria, VA 22313-1450, on March 20, 2006.

By: Klaus P. Stoffel Date: March 20, 2006